

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8055

Honeywell Electronic Materials

1500 West 1st Street

Cheney, WA 99004

SUMMARY

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 8055. The Department of Ecology (the Department) is proposing to renew this permit, which will allow discharge of wastewater to the City of Cheney Wastewater Treatment Plant. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Currently, Honeywell operates two process lines: 1) An Aluminum anodizing line, 2) A Nickel Electroplating line. The facility first started its aluminum anodizing processes in September 1998, and the first wastewater discharge permit was issued in 1999. In November 2001, the facility added two Nickel plating lines at the current facility. In June, 2002, during the permit renewal period, the facility proposed to move seven processing lines from Honeywell's Spokane facility to its Cheney facility. A major permit modification was required at that time while renewing the permit. Therefore, the permit renewal process was delayed subjecting to a submittal of proved Engineering report. Most recently however, Honeywell has decided not to move those processing lines to Cheney facility. And Honeywell removed one of the Nickel plating lines from the Cheney facility in June (Attachment #1).

Thus, the permit renewal can proceed under existing conditions. The facility operates a highly efficient wastewater treatment system installed in 1998. The wastewater volume flow will be within the current permitted capacity, and the wastewater treatment process is expected to meet the same standard as in the current permit. The renewal permit made some adjustment to the effluent monitoring schedule to reflect a performance based wastewater monitoring program.

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INTRODUCTION

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D—Response to Comments.

GENERAL INFORMATION	
Applicant	Honeywell Electronic Electronics
Facility Name and Address	1500 West First, Cheney, WA 99004
Type of Facility:	Metal finishing and Aluminum Anodizing
Facility Discharge Location	Latitude: 47° 28' 28" N Longitude: 117° 36' 8" W.
Treatment Plant Receiving Discharge	City of Cheney POTW
Contact at Facility	Name: Jim Wilson Title: Environmental Engineer Address 15128 E. Euclid Avenue, Spokane, WA 99216 Telephone #: (509) 252-2290 Fax #: (509) 252-8743
Responsible Official	Name: Ed Demailo Title: Site Leader, Honeywell Electronic Materials Address: E. 15128 Euclid Ave. Spokane, WA 99216 Telephone #: (509) 252-2200 Fax # (509) 252-2071

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

History

Honeywell International Inc. (Honeywell) acquired Johnson Matthey Electronics (JME) in 2000, which was the original permit holder. They operated a metal finishing and aluminum anodizing facilities at both Cheney and Spokane Valley, Washington. The location map is attached as Figure 1.

Honeywell Electronic Materials Inc. (HEM) is a division of Honeywell International Inc., a diversified technology and manufacturing company. HEM is a leading supplier to the semiconductor industry of sputtering targets, plated products including metal seal lids and heat spreaders, high purity metals, phase change materials, soft solder performs, evaporation products, and a wide variety of fine wire and ribbon.

Currently, Honeywell's Cheney facility operates one aluminum anodizing line and one automated nickel plating line which plates nickel onto copper parts. These processes generate wastewater during metal cleaning, plating, anodizing and final rinsing stages. These process water discharges are covered under the State Waste Discharge Permit #8055 which was transferred to Honeywell from the JME permit originally issued in 1999.

Industrial Processes

Honeywell's aluminum anodizing line is the oldest and has been in operation since 1999. The principle of the process was detailed in the 1999 permit. In short, aluminum anodizing is an electrochemical process. This process oxidizes the surface layer of aluminum to form a surface finish of aluminum oxide that will not further oxidize and makes the surface non-reactive. The finished product is used as heat sink to remove heat generated by computer processor chips.

Two new nickel plating lines were added to the Cheney facility in early 2002, and one line was removed in 2003. The nickel plating line plates nickel onto copper parts through a nickel solution in an electrochemical process.

Before anodizing and plating, the metal parts need to be cleaned and prepared for processing. These metal parts preparation processes include machining, forming, punching, deburring, grinding etc. There are also some manufacturing of tool and die materials using tooling grade steels, manufacturing metal alloy spheres activities. Some of these processes do not generate process waste water; and other processes generate wastewater on batch bases which discharge directly to sewer system.

A detailed schematic for the anodizing process was attached to the original permit fact sheet issued in 1999. Figure 2 in this fact sheet simply shows the number of processes and wastewater flows. The Table below gives a more detailed process water usage inventory:

Table 1 Daily Process Water Discharge Quantity Estimate

Process	Wastewater Stream Name	Design monthly average (gpd)	Destination
1. Deburring	Rinsewaters	500-600	Equalization
2. Nickel electroplating	Rinsewaters	8000-9600	Equalization
3. Aluminum anodizing	Rinsewaters	4000-4800	Equalization
4. Spent process solutions			
Alkaline cleaner	Spent bath/batch	100	Equalization
Acids solutions	Spent bath/batch	100	Equalization
5. Lab wastewater	Glassware washing	400-500	Equalization
6. Air emission-scrubbers	Blow down	3000	Equalization
7. RO reject water	Concentrate	5,000	Sewer
8. Boilers & chillers	Blow down	500/year	Sewer

TREATMENT PROCESSES

Figure 2 and Table 1 illustrate the plant water usage distribution, and various sources of wastewater. Figure 3 is the schematic for the wastewater treatment. This is the same treatment system that was installed in 1998 when the plant first started.

As shown in Figure 3, all rinse waters and various waste streams are collected to a 5600 gallon equalization tank, where mixing and pH adjustment occurs using spent caustic and acid. The wastewater is then pumped to a 1100 gallon reaction tank where sodium hydroxide is added to raise the pH to 9.5 where copper, nickel and other dissolved metals (represented by “M⁺”) are precipitated through reaction with the free hydroxyl ions (OH⁻) to form insoluble metal hydroxides (M⁺ + OH⁻ → MOH). Calcium chloride is also injected at this stage to precipitate phosphates (PO₄³⁻) as hydroxyapatite complexes (Ca₃(PO₄)₂). The wastewater then flows to the concentration tank where the insoluble precipitates are concentrated. This concentration occurs due to the physical separation of the insoluble precipitates and the water. The wastewater is pumped under high pressure through a series of filters with very small (0.1 microns) pore sizes that allows the water to pass through and retains the insoluble metal hydroxide and calcium phosphate solids. This microfiltration device is the key process in preventing precipitated solids from being discharged in the plant effluent. The filtrate (the material passing through the filter) is discharged to a 500 gallon Neutralization tank where the pH is adjusted to between 5.0 and 11.0. The concentrated solids are returned to the Concentration tank where they are pumped to a second filtration unit (a plate and frame filter press) where the solids are collected and de-watered. The sludge accumulated in the filter press is disposed of off site as a hazardous waste regulated under WAC 173-303.

The neutralization tank was also designated as the point of compliance (point A) in the existing permit. As shown in Figure 3, the treated process water combines RO reject water and the boiler and chiller blow down water which discharges to a sewer manhole just outside the HEM building. This manhole is designated as point B where flow data is recorded, and other wastewater monitoring required by the City of Cheney.

Metal plating and the anodizing is a chemical using heavy industry. The Table below provides an estimate of the Cheney facility chemical usage at an estimated annual rate for both plating lines and the wastewater pretreatment unit.

Table 2. Estimate Chemical Usage based on 2002 Record (Pounds/Year)

<u>Chemicals</u>	<u>Current or Estimated Annual Usage</u>	<u>Disposal Method/Destination</u>
Nickel Stripping		
Nitric Acid	26,950 – 47,100	Acid collection tank
Metex Nitra Add	1,000 – 3,500	Acid collection tank
Alkaline Cleaners		
Anodex NP-2	3,200 – 13,400	Alkaline collection tank
Oakite HD 126	1,500	Alkaline collection tank
Acid Activators		
Sulfuric acid	8,800 – 14,800	Acid collection tank
Hydrogen peroxide	3,300	Acid collection tank
Coppermerse	3,300	Acid collection tank
Microetch P	5,000 – 10,000	Acid collection tank
Hydrochloric acid	7,700	Acid collection tank
Nickel Plating		
Nickel sulfamate	8,000 – 24,500	Acid collection tank
Boric acid	550 – 4,250	Acid collection tank
Barret SNAC	400 – 2,000	Acid collection tank
Additive B	1,000 -- 3,000	Acid collection tank
Treatment Chemicals		
Calcium Chloride	12,000	Reaction tank
50% Caustic Soda	70,000	Reaction tank
Sulfuric acid	6,000	Reaction tank
Hydrogen Peroxide	11,000	

The actual chemical usage might be less than the estimate due to the proposed plating line moves from Spokane to Cheney was canceled. It is predicted that the inorganic waste chemicals, in the form of heavy metal, phosphate and some low soluble sulfate salt, will be removed in the reaction tank through precipitation and eventually end up in the sludge and disposed as solid waste. While the precipitation and filtration process will be effective in removing most phosphates and dissolved heavy metals, most if not all nitrate will be discharged as sodium nitrate due to its high solubility. While there are no treatment or effluent standards for sodium nitrate, the City of Cheney has requested that nitrate levels be monitored. Very high nitrate levels may inhibit the biological treatment process used in the City of Cheney's wastewater treatment plant.

Those chemicals used as chemical bath where plating and anodizing occurs are disposed of separately, and was regulated under hazardous rules. Some chemicals are used in the wastewater treatment processes, and some waste chemicals are in spent acid or caustic tanks for pH adjustment, therefore will end up in the pretreatment system. The various stages of rinse waters are discharged as process wastewaters, and these rinse waters carry some diluted chemicals to the pre-treatment to be treated. Heavy metals and phosphates will be removed through precipitation and micro filtration processes. Nitrate will be hard to remove due to high solubility in water. Thus, higher than normal nitrate in the discharge is expected.

PERMIT STATUS

The initial discharge permit was issued on October 1999. In December 2001, a permit minor modification was requested and an application was submitted to the Department. The application was accepted in December 2001. The existing permit expired on June 2002. An application for the permit renewal was submitted in June 2002 along with the request for a major modification. The application was accepted and the permit renewal was pending for an approved engineering report. In June 2003, Honeywell canceled their plan for the plant expansion; therefore a permit modification will not be needed, but a permit renewal instead.

SUMMARY OF COMPLIANCE

The last inspection was conducted on August 21, 2002. The facility has been in compliance with the discharge permit conditions. A DMR summary report is attached as Figure 4 and Figure 5. There were few pH exceedences in the early operations of the plant. Most metal concentrations in the discharge were tested below detection limit. However, there was a one time Copper exceeding the limit, and all other heavy metals have met the discharge limit at the end point of pre-treatment unit.

WASTEWATER CHARACTERIZATION

Wastewater discharge was monitored on regular bases. The samples were collected and tested at two locations: (1) Point A as the end of the pretreatment system, or the point of compliance; and (2) Point B as the point of discharge before all wastewaters leaving the plant into the city of Cheney's sewer line. The monitoring data was submitted to Ecology as a DMR (discharge monitoring report) report. The complied data (DMRs) from November 1999 to July 2003 is summarized in Table 4 and 5, and plotted graphs in Chart 1 through 6. For all the parameters tested and data provided in the DMRs, this fact sheet gives a brief data summary analysis as following:

Flow: Flows were measured at location A (the end of pretreatment system), and location B (the point of discharge to the city's sewer line). The effluent limits were set at location B with a 50,000 daily maximum and 45,000 average monthly. From Flow Chart 1 and Chart 2, and DMR Table 3 and Table 4, one can see that there was a one time daily maximum flow as high as 193,599 gpd on 2/27/2001. The facility did not give an explanation at the time, or indicate reasons in the DMR report of this flow violation. Notice though on the same day, the flow at location A was only 2,067 gpd. The facility should investigate any abnormal operations immediately and report reasons to the Department and the City of Cheney, as the permit clearly indicates that bypass activities are restricted.

The higher flow from August, 2002 to April, 2003 maybe caused by the associated two Nickel plating lines to the production, however DMR report did not make record of starting date of Nickel line operations. Over all, the facility was able to comply with the flow limitation set on location B throughout the permit cycle.

It appears from Chart 1: there were a few data points where location A discharge exceeded location B discharge. This does not make sense. Thus, the facility should check their flow recordings to make sure all flow meters are correct and calibrated regularly.

pH: pH were also tested at both locations, with the limit set at point A. Table 3 shows that there were pH exceedences when the plant first started its operation from November 1999 to June 2000. During rest of the permitting years, pH has stayed in the permitted range of 5.0 to 11.0.

- Cadmium:** Table 3 shows that there was a one time Cadmium violation at location A during the second month of operation. From the process description, Cadmium was not a source of pollutant in this particular operation. Therefore, Cadmium was low in the wastewater, and was able to comply with the limit.
- Copper:** Table 3 and Chart 4 both give clear data range for copper tested at point A. From November 11, 1999 to December 2001, copper concentration was consistently low in the range of 0.01 mg/l to 0.06 mg/l. Starting January 2002, copper concentration showed slowly increase, this might be caused by the new added Nickel plating lines which plates nickel onto copper parts.
- Unfortunately, there was a one time copper violation on 10/23/02 at location with copper concentration as high as 5.25 mg/l (the daily maximum limit is 3.38mg/l). The facility made a remark in that month DMR report, and indicated in a follow up letter that the high copper content might be caused by sampling method at location A. That letter pointed out that the copper concentration tested at location B on the same day was 0.55 mg/l. The copper concentration difference at two locations indicated dilution factors at location A, while the high copper content at point A may in fact indicates occasional pretreatment operational deficiencies. The facility should focus their effort on system operation. Routine O&M check is required in order to produce consistent, high quality effluent.
- Cr and Ni:** Chromium and Nickel are the primary pollutant from the facility's Anodizing and Nickel plating processes. Cr and Ni were sampled at both location A and B. Chart 3 is the Cr daily maximum concentration at both locations. Chart 5 is Ni daily maximum discharge at both location A and B. Both charts showed that all Cr and Ni discharges were within the discharge limit in 4 years. The pretreatment is effective for removing Cr and Ni from the process water. Except for one Cr data point, most of Cr and Ni data were well below the discharge limit.
- At location B, both Cr and Ni were consistently tested below the detection level, even on days that the flow at point A and point B were very close, therefore dilution was not the factor. The point B testing result for Chromium and Nickel should be a proportion of point A result if all samples at both locations were representative.
- Pb,Ag,Zn,CN:** These four metals were tested only at location A. They have consistently showed none-detect throughout 4 years of data in Table 3. Charts were not plotted.
- TSS and FOG:** TSS (total suspended solid) and FOG (fat, oil & grease) were only tested at location B. TSS in Table 4 shows consistently lower than regular TSS in sanitary sewer. FOG ranged from 1 mg/l to 120 mg/l, however most data occurs at low range. Both parameters were not given discharge limits, and for monitoring only.
- TDS, COD:** These three parameters were tested at location B and for monitoring only. The Table 4 gives & the result of testing Data for TDS, COD and conductivity, which showed typical of industry Conductivity discharges.
- Total Ph:** Phosphorus was tested at location B. As shown in Chart 6, there were four data point exceeded the local limit for total Phosphorus. It is recommended that Honeywell focus their effort to keep Phosphorus low and consistent in the effluent to meet the city of Cheney's Phosphorus limit.

Chart 1
Honeywell Discharge Flow from 1999 to 2003
Daily maximum

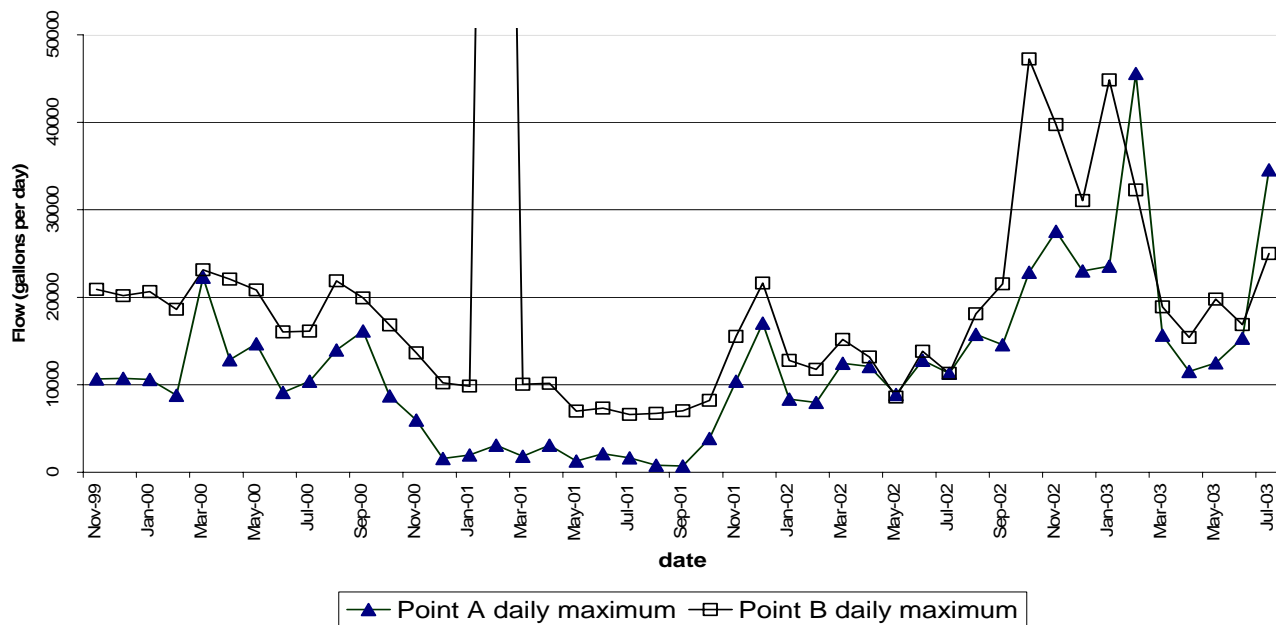


Chart 2
Honeywell Discharge Flow 1999-2003
Monthly Average

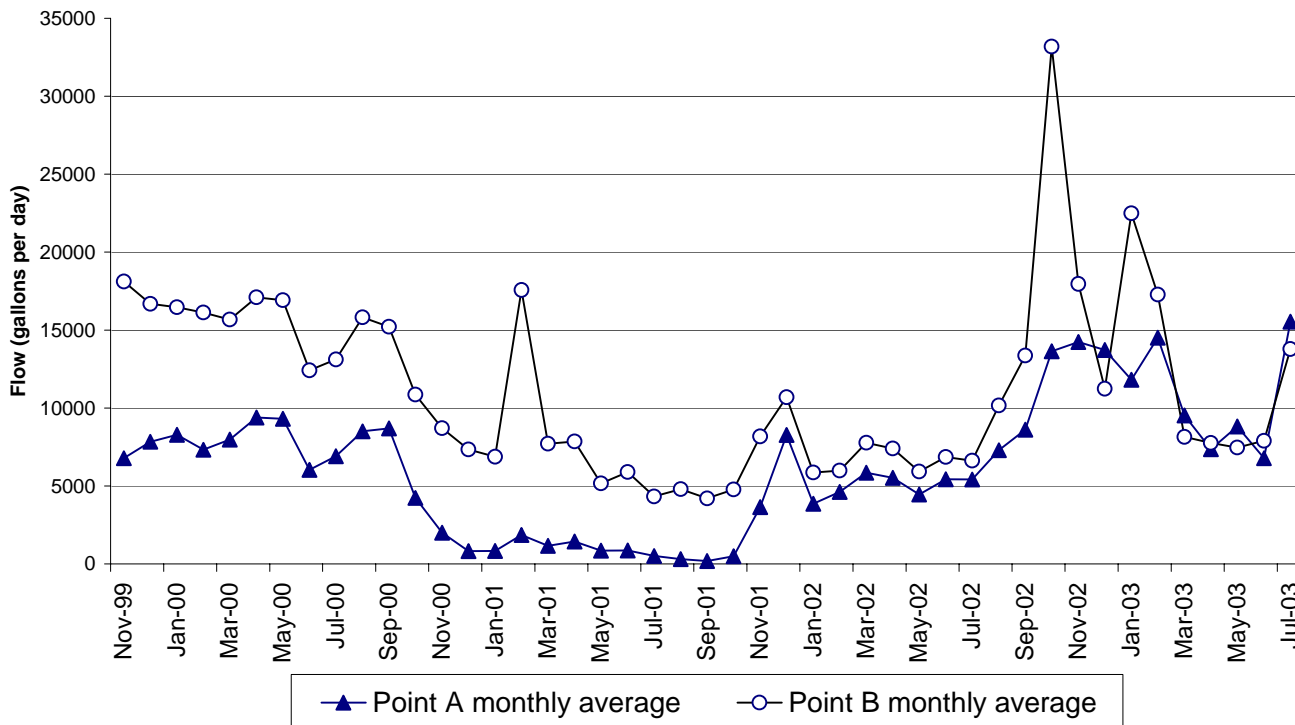


Chart 3
Copper discharge daily maximum

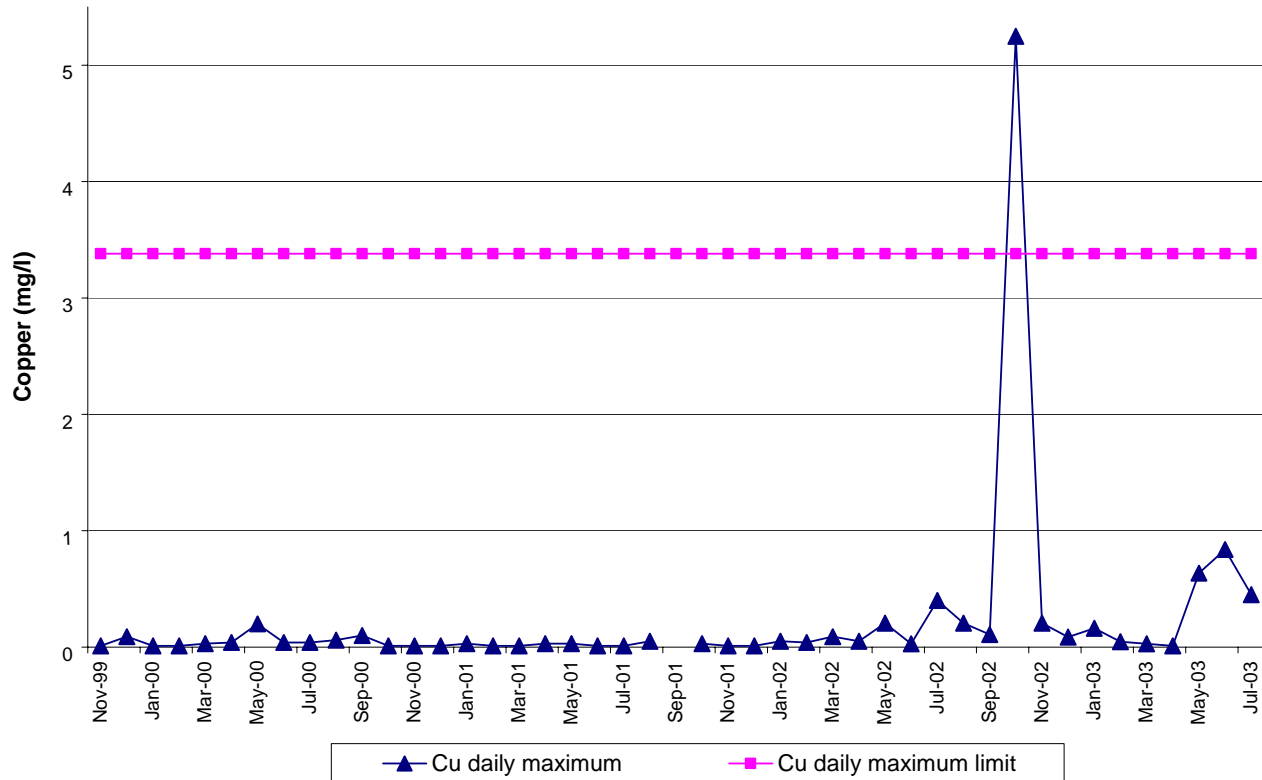


Chart 4
Chromium Daily Maximum (mg/l)

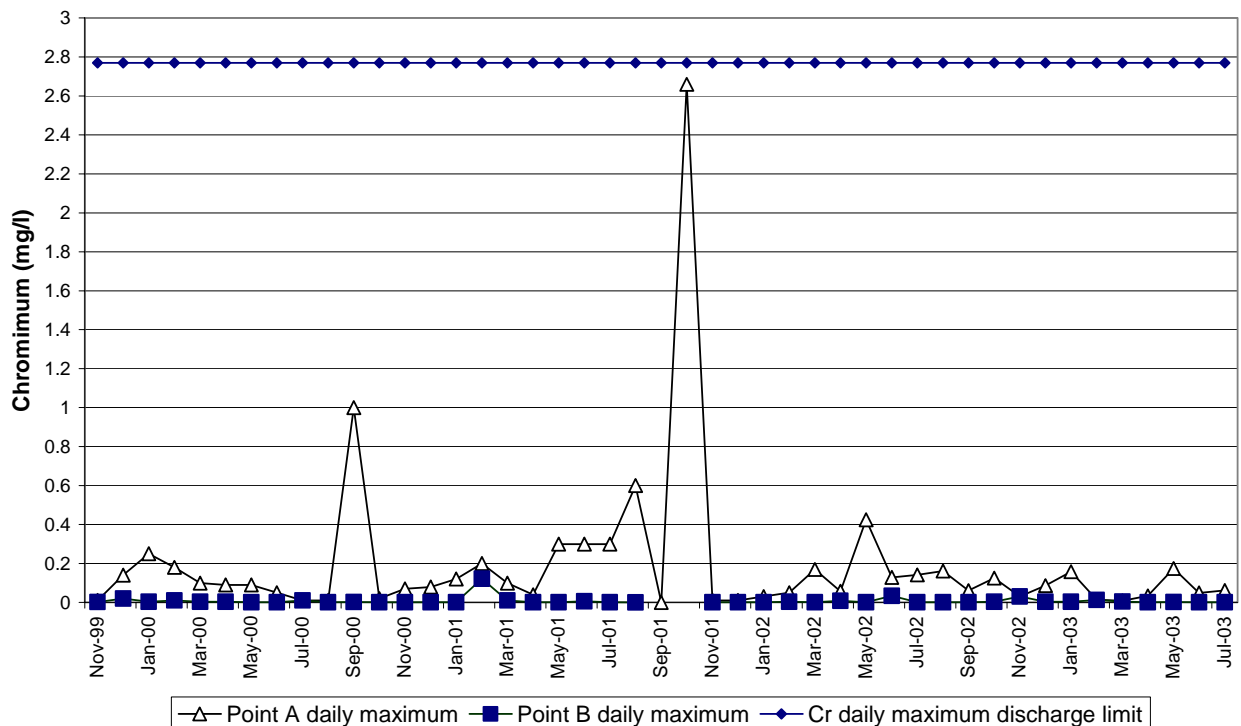


Chart 5
Nickel discharge daily maximum

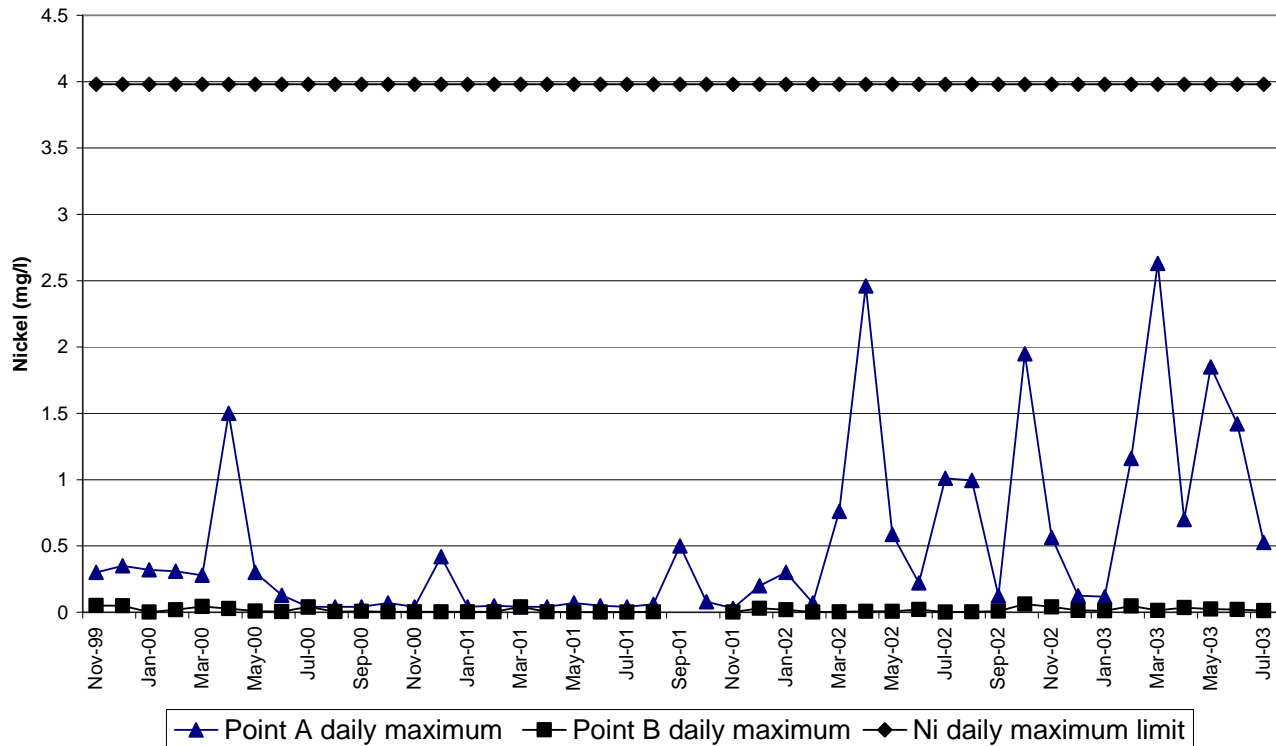
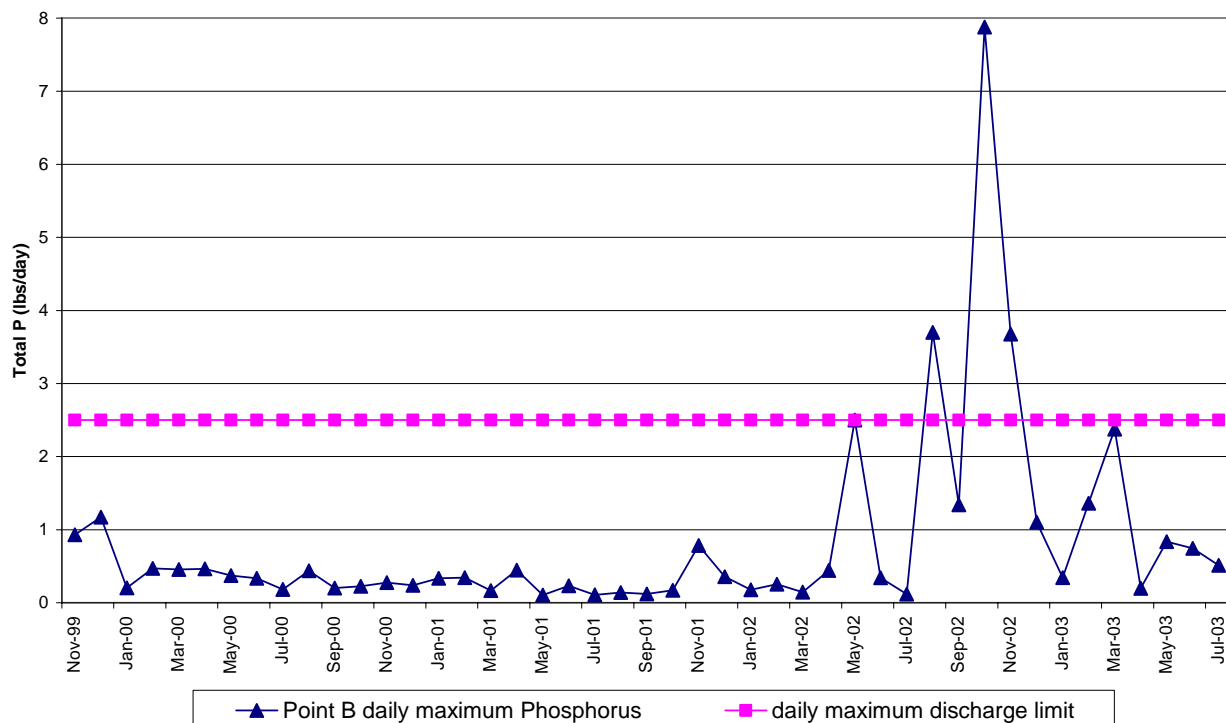


Chart 6
Daily maximum total Phosphorus at location B



PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). There are federal categorical limitations for this facility listed under 40 CFR Part 433.17, Subpart A-Metal Finishing. Pretreatment standards for new source specify the following limitations listed on Table 6. These limitations are applied at discharge point A.

Table 5. Effluent Limitations (40 CFR Part 433) at Point A

Parameter	Daily Maximum	Monthly Average
PH ¹	Within the range of 5.0 – 11.0	
Cadmium (mg/l)	0.11	0.07
Chromium (mg/l)	2.77	1.71
Copper (mg/l)	3.38	2.07
Lead (mg/l)	0.69	0.43
Nickel (mg/l)	3.98	2.38
Silver (mg/l)	0.43	0.24
Zinc (mg/l)	2.61	1.48
Cyanide (mg/l)	1.20	0.65

¹ In 40 CFR Part 433, pretreatment standards for new source point discharge, there is no limit for pH. City of Cheney has not set local limit for pH. The pH range in this permit is based on State Standard specified in WAC 173-216-060.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect city of Cheney POTW from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, effluent limitations for certain parameters are necessary.

The city of Cheney and Honeywell had established an agreement in 2001 (Attachment #2) to allow industrial specific discharges to the city's sewer system. This agreement was to cover those discharge pollutants that were not included in the city's sewer ordinance, specifically, for total Phosphorus, Chromium, Copper and Nickel.

City of Cheney's wastewater treatment plant discharges to a wetland. In order to meet water quality based discharge limit on Phosphorus, the City established tight criteria for incoming water total Phosphorus, and negotiated discharge limit with industrial users on a case by case bases. Also, the City's wastewater treatment plant generates class A sludge, and currently is exploring commercial usage after further process of the Class A sludge, therefore metal control in the sludge is critical due to class A sludge standard. Most metals are eventually ended up in the wastewater plant's sludge, due to the fact that the biological processes can hardly digest or convert metals in the wastewater. Therefore, City of Cheney has been consistent establishing metals criteria in the incoming water in the past. This current agreement was negotiated between the facility and the city of Cheney, and approved by the Department. In a most recent correspondence from the city of Cheney, the city has updated the metals limits at discharge point B (Attachment #3), therefore the final specific local limits are as following:

Table 6. Local Limits at Discharge Point B.

Parameter	Daily Maximum	Monthly Daily Average
Flow	50,000 gpd	45,000 gpd
Total Phosphorus, TP	2.5 lb/day	1.0 lb/day
Chromium, Cr	1.71 mg/l	0.4 lbs/day
Copper, Cu	2.07 mg/l	0.2 lbs/day
Nickel, Ni	2.38 mg/l	0.4 lbs/day

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

It is important to keep the point of compliance at the end of the pretreatment unit, which is consistent with the requirement of the federal categorical limit and is also consistent with the current permit. Table 7 lists the detailed schedules for monitoring plan at discharge point A. The rationale for changes to the monitoring schedule is explained as following:

Flow and pH: Flow and pH monitoring will remain the same as existing permit. This necessary and minimum requirement to monitor basic information of discharge flows.

Cu, Ni & Cr: These three metals will be monitored 2 times per month which remains the same with the current permit schedule. Two data point per month is needed to meet the city's requirement.

Zn, Pd & Ag: These three metals monitoring schedule is reduced to once per six months. The significant frequency reduction is based on the analysis of past four years of data. As Table 3 clearly shows that almost all sample tested were resulted as ND (Non-Detect) of these five metals. Based on these performance and predictability for future performance, it will be a waste of recourses to continue a monthly schedule to test these three metals while the facility's operation remains the same. Therefore, a monitoring frequency reduction is reasonable for these three metals throughout this permit cycle.

Ca & Cyanide: Cadmium and Cyanide data also show mostly ND in Table 4, however, Cadmium in the process water as tested was consistently low, and the facility indicated that they might use minimum Cyanide in future processes, therefore the frequency for these two metals are set for semi-annual.

Table 7. Wastewater Monitoring at Point A

Parameter	Sample Point	Sampling Frequency	Sample Type
Flow	Location A	Daily	Continuous
pH		Daily	Continuous
Copper		2/month	8 hr composite
Nickel			
Chromium			
Cadmium		1/ six month	
Cyanide			
Zinc			
Lead			
Silver			

For location B monitoring which is required by the City of Cheney, the monitoring schedule is as in Table 8, and explained as following:

Flow and pH: Flow and pH will remain the same as the current permit.

Phosphorus: The monitoring frequency is changed to twice per months as believed to be representative and reasonable.

Cu, Ni & Cr: As past 4 years DMR data shows, metals tested at location B resulted consistently ND (non-detect). However, the city of Cheney recommended that these three metals be monitored twice a month at location B, to ensure compliance of metals discharge at point B.

Nitrate as N: The city recommended monitoring of Nitrate Nitrogen at point B, because Honeywell discharges high concentration of nitrate in their process water, and nitrate removal is a key process in the city of Cheney's biologic treatment process. No discharge limit was set for nitrate nitrogen at present time.

Table 8 Wastewater Monitoring at Point B

Parameter	Sample Point	Sampling Frequency	Sample Type
Flow	Location B	Daily	Continuous
pH		Daily	Continuous
Total Phosphorus		2/month	24 hr. composite
Copper			
Nickel			
Chromium			
Nitrate Nitrogen			

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110 and 40 CFR 403.12 (e),(g), and (h)).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11 requires the payment of permit fees. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 13 and June 20, 2001 in the Spokesman-Review to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on January 1, 2004 in the Cheney Free Press to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Eastern Regional Office
N 4601 Monroe, Suite 202
Spokane, WA 99205

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (509) 329-3451, or by writing to the address listed above.

This permit was written by Ying Fu.

APPENDIX B—GLOSSARY

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference— A discharge which, alone or in conjunction with a discharge or discharges from other sources, both: Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance

with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through— A discharge which exits the POTW into waters of the-State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or

POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Fixed Suspended Solids (FSS) – The non-volatile fraction of suspended solids. Non-volatile TSS is measured as the residual following firing the filtered solids in a muffle furnace at 500 degrees C. See Standard Methods 2540E.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

Point A Discharge

Table 3 Honeywell location A DMR data from 1999 to 2003

Date	Flow (gpd)		pH		Cd (mg/l)		Cr (mg/l)		Cu (mg/l)		Ni (mg/l)		Pb (mg/l)		Ag (mg/l)		Zn (mg/l)		CN (mg/l)	
	avg	max	min	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max
11/1/1999	6784	10667	7.1	9.3	0.01	0.01	0.01	0.01	0.01	0.01	0.225	0.3	0.01	0.015	0.045	0.05	0.1	0.11	0.01	0.01
12/1/1999	7835	10730	1	10.4	0.315	0.6	0.12	0.14	0.075	0.09	0.275	0.35	0.05	0.05	0.01	0.01	0.075	0.08	0.01	0.01
1/1/2000	8287	10626	6.1	10.6	0.002	0.002	0.25	0.25	0.01	0.01	0.32	0.32	0.026	0.05	0.07	0.07	0.03	0.03	0.01	0.01
2/1/2000	7327	8803	3.8	11.4	0.01	0.01	0.18	0.18	0.01	0.01	0.28	0.31	0.2	0.2	0.01	0.01	0.03	0.03	0.05	0.05
3/1/2000	7971	22300	6.3	9	0.01	0.01	0.07	0.1	0.03	0.03	0.265	0.28	0.05	0.05	0.015	0.02	0.03	0.05	0.04	0.04
4/1/2000	9389	12846	6.4	9.3	0.006	0.01	0.07	0.09	0.04	0.04	0.98	1.5	0.13	0.13	0.01	0.01	0.14	0.24	0.01	0.01
5/1/2000	9319	14680	1.2	13.6	0.01	0.01	0.075	0.09	0.2	0.2	0.26	0.3	0.08	0.08	0.01	0.01	0.04	0.04	0.01	0.01
6/1/2000	6036	9127	3.7	10.7	0.01	0.01	0.05	0.05	0.04	0.04	0.13	0.13	0.045	0.05	0.01	0.01	0.04	0.04	0.02	0.02
7/1/2000	6907	10405	6.3	9.1	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.05	0.05	0.01	0.01	0.04	0.04	0.05	0.05
8/1/2000	8499	13964	6.7	8.9	0.01	0.01	0.01	0.01	0.045	0.06	0.04	0.04	0.05	0.05	0.01	0.01	0.07	0.07	0.3	0.3
9/1/2000	8696	16164	6.9	9.1	0.006	0.01	0.01	1	0.065	0.1	0.04	0.04	0.004	0.004	0.01	0.01	0.04	0.04	0.03	0.05
10/1/2000	4230	8726	5.6	9.9	0.01	0.01	0.02	0.02	0.01	0.01	0.07	0.07	0.027	0.05	0.01	0.01	0.04	0.04	0.01	0.01
11/1/2000	2006	5969	5.8	9.7	0.01	0.01	0.045	0.07	0.01	0.01	0.04	0.04	0.02	0.02	0.01	0.01	0.04	0.04	0.03	0.05
12/1/2000	828	1590	6.1	9.3	0.01	0.01	0.06	0.08	0.01	0.01	0.24	0.42	0.005	0.005	0.01	0.01	0.04	0.04	0.01	0.01
1/1/2001	840	1977	5.8	9.3	0.002	0.002	0.085	0.12	0.025	0.03	0.04	0.04	0.003	0.003	0.01	0.01	0.2	0.2	0.05	0.05
2/1/2001	1867	3085	5.5	9.6	0.002	0.002	0.145	0.2	0.01	0.01	0.045	0.05	0.006	0.006	0.04	0.04	0.04	0.04	0.01	0.01
3/1/2001	1159	1848	6.2	9.7	0.01	0.01	0.075	0.1	0.01	0.01	0.04	0.04	0.002	0.002	0.04	0.04	0.015	0.02	0.01	0.01
4/1/2001	1446	3089	6.2	9.7	0.02	0.02	0.04	0.04	0.025	0.03	0.04	0.04	0.002	0.002	0.01	0.01	0.04	0.04	0.02	0.02
5/1/2001	860	1288	7.4	9.7	0.002	0.002	0.25	0.3	0.02	0.03	0.07	0.07	0.002	0.002	0.02	0.02	0.04	0.04	0.02	0.02
6/1/2001	871	2116	6.5	9.9	0.01	0.01	0.155	0.3	0.01	0.01	0.05	0.05	0.006	0.006	0.04	0.04	0.04	0.04	0.01	0.01
7/1/2001	512	1650	7.4	10.1	0.002	0.002	0.3	0.3	0.01	0.01	0.04	0.04	0.05	0.05	0.01	0.01	0.04	0.04	0.02	0.02
8/1/2001	317	820	8.1	9.9	0.02	0.02	0.6	0.6	0.05	0.05	0.06	0.06	0.08	0.08	0.01	0.01	0.05	0.05	0.01	0.01
9/1/2001	183	724	8	10.1			0.5				0.5	0.5								
10/1/2001	504	3863	4.9	10.5	0.015	0.02	1.405	2.66	0.025	0.03	0.06	0.08			0.035	0.04	0.02	0.02		
11/1/2001	3651	10405	6.1	10.5	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.002	0.002	0.01	0.01	0.01	0.01	0.01	0.01
12/1/2001	8279	17035	5.7	10.5	0.002	0.002	0.01	0.01	0.01	0.01	0.2	0.2	0.002	0.002	0.01	0.01	0.2	0.2	0.01	0.01
1/1/2002	3861	8353	6.7	8.6	0.01	0.01	0.03	0.03	0.045	0.05	0.215	0.3	0.14	0.14	0.01	0.01	0.2	0.2	0.01	0.01
2/1/2002	4619	7976	5.8	9.3	0.01	0.01	0.03	0.05	0.03	0.04	0.05	0.07	0.05	0.05	0.01	0.01	0.2	0.2	0.01	0.01
3/1/2002	5857	12450	5.1	10	0.01	0.01	0.17	0.17	0.08	0.09	0.51	0.76	0.002	0.002	0.01	0.01	0.02	0.02	0.01	0.01
4/1/2002	5525	12090	5.6	9.9	0.004	0.004	0.057	0.057	0.033	0.049	2.165	2.46	0.03	0.03	0.01	0.01	0.01	0.01	0.05	0.05
5/1/2002	4456	8892	8.5	9.9	0.004	0.004	0.301	0.425	0.114	0.205	0.389	0.588	0.03	0.03	0.01	0.01	0.012	0.012	0.05	0.05
6/1/2002	5428	12799	7.9	10.7	0.004	0.004	0.088	0.129	0.026	0.028	0.132	0.221	0.03	0.03	0.01	0.01	0.01	0.01	0.005	0.005
7/1/2002	5421	11319	8.2	9.8	0.004	0.004	0.109	0.142	0.234	0.4	0.558	1.01	0.03	0.03	0.01	0.01	0.032	0.032	0.005	0.005
8/1/2002	7301	15753	7.8	10	0.004	0.004	0.121	0.162	0.158	0.206	0.6	0.994	0.03	0.03	0.01	0.01	0.016	0.016	0.005	0.005
9/1/2002	8608	14565	5.7	10.4	0.004	0.004	0.049	0.061	0.107	0.107	0.115	0.124	0.03	0.03	0.01	0.01	0.059	0.059	0.005	0.005
10/1/2002	13639	22870	6.3	9.6	0.004	0.004	0.09	0.125	2.647	5.25	1.021	1.95	0.03	0.03	0.01	0.1	0.013	0.013	0.005	0.005
11/1/2002	14230	27528	5.8	9.4	0.004	0.004	0.027	0.031	0.121	0.205	0.372	0.564	0.197	0.197	0.01	0.01	0.066	0.119	0.005	0.005
12/1/2002	13725	22990	4.9	10.7	0.004	0.004	0.056	0.086	0.079	0.086	0.111	0.125	0.03	0.03	0.01	0.01	0.037	0.06	0.005	0.005
1/1/2003	11816	23560	5.4	10.8	0.059	0.114	0.084	0.158	0.091	0.162	0.086	0.117	0.03	0.03	0.01	0.01	0.01	0.01	0.003	0.005
2/1/2003	14509	45568	5.6	11.2	0.003	0.034	0.012	0.014	0.04	0.045	0.738	1.16	0.03	0.03	0.013	0.015	0.02	0.03	0.005	0.005
3/1/2003	9536	15655	5	9.2	0.0034	0.0034	0.0085	0.009	0.023	0.027	2.21	2.63	0.03	0.03	0.015	0.015	0.019	0.019	0.005	0.005
4/1/2003	7357	11532	4.6	9.3	0.002	0.002	0.0212	0.034	0.009	0.01	0.404	0.698	0.03	0.03	0.01	0.01	0.01	0.01	0.005	0.005
5/1/2003	8821	12489	5.1	9.9	0.002	0.002	0.117	0.174	0.409	0.636	1.171	1.85	0.03	0.03	0.01	0.01	0.01	0.01	0.005	0.005
6/1/2003	6779	15308	5.1	9.6	0.002	0.002	0.0286	0.049	0.531	0.838	0.755	1.42	0.03	0.03	0.01	0.01	0.013	0.017	0.005	0.005
7/1/2003	15539	34561	5.1	9.9	0.002	0.002	0.0357	0.063	0.323	0.451	0.38	0.527	0.03	0.03	0.01	0.01	0.01	0.01	0.005	0.005
Limit			5	11	0.07	0.11	1.71	2.77	2.07	3.38	2.38	3.98	0.43	0.69	0.24	0.43	1.48	2.61	0.65	1.2

FACT SHEET FOR STAE WASTE DISCHARGE PERMIT ST-8055

Honeywell Electronic Materials, Cheney, Washington

Point B Discharge

Table4 Honeywell location B DMR data from 1999 to 2003

Date	Flow (gpd)		pH		Total P		FOG		Conductivity		TDS		COD		Cr		Ni		TSS	
	avg	max	min	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max	avg	max
11/1/1999	18120	20910	6.9	8.5	0.519	0.932	1	1	1370	1440	1095	1200	100	100	0.002	0.002	0.038	0.052		
12/1/1999	16685	20173	6.9	8.7	0.869	1.171	1	1	1750	2100	1225	1600	0.55	1	0.011	0.02	0.029	0.049		
1/1/2000	16474	20639	7.4	8.6	0.175	0.206	1	1	2500	4100	1950	2800	0.55	1	0.003	0.003	0.001	0.002		
2/1/2000	16128	18617	7.6	8	0.34	0.47	4	4	2800	3800	2150	2900	0.1	0.1	0.01	0.01	0.012	0.02		
3/1/2000	15671	23145	8	8.5	0.345	0.456	1	1	1750	1900	2100	2600	70	70	0.003	0.003	0.045	0.045		
4/1/2000	17097	22065	7.7	8.3	0.372	0.466	10	14	3460	6000	1300	1400	6	6	0.004	0.004	0.029	0.029	57	66
5/1/2000	16914	20835	7.7	8.3	0.215	0.372	75.5	150	7450	14000	1200	1800	30	30	0.001	0.001	0.009	0.009	30	38
6/1/2000	12418	16042	7.8	8.5	0.178	0.336	21	32	700	720	625	700	125	180	0.001	0.001	0.003	0.005	23.5	27
7/1/2000	13112	16126	7.9	8.3	0.124	0.183	1.5	2	650	660	560	610	10	10	0.01	0.01	0.04	0.04	4.5	5
8/1/2000	15815	21879	7.3	8.7	0.157	0.436	120	120	1055	1400	435	460	10	10	0.001	0.001	0.006	0.006	7	13
9/1/2000	15204	19923	8	8.1	0.15	0.202	5.5	10	730	760	415	420	60	90	0.001	0.002	0.006	0.007	3	4
10/1/2000	10866	16825	8.2	8.6	0.138	0.227	1	1	700	760	355	430	10	10	0.001	0.001	0.003	0.004	6	6
11/1/2000	8707	13645	8	8.3	0.155	0.276	3	4	485	600	380	380	55	60	0.001	0.001	0.003	0.003	12	15
12/1/2000	7343	10210	7.9	9	0.138	0.238	6	6	715	890	740	990	135	200	0.001	0.001	0.003	0.003	9.5	11
1/1/2001	6883	9841	7.8	8.5	0.176	0.334	3	3	640	680	485	570	205	280	0.001	0.001	0.003	0.003	40	73
2/1/2001	17569	193599	8	8.9	0.293	0.344	4	4	900	1200	1245	1700	125	140	0.064	0.122	0.003	0.003	18	19
3/1/2001	7718	10047	7.5	8.9	0.123	0.167	15.5	25	855	1200	640	900	10	10	0.01	0.01	0.04	0.04	16.25	32
4/1/2001	7849	10173	8	8.7	0.181	0.448	2	2	1420	2000	415	440	60	110	0.001	0.001	0.003	0.003	5	5
5/1/2001	5162	6977	7.7	9.1	0.081	0.106	5	7	915	930	655	730	755	1500	0.001	0.001	0.002	0.002	95.5	190
6/1/2001	5893	7344	7.5	8.2	0.164	0.232	6	7	1240	1800	0.006	660	760	1300	0.005	0.006	0.002	0.002	78	120
7/1/2001	4327	6613	7.9	9.1	0.083	0.11	9	9	930	930	540	540	160	160	0.001	0.001	0.001	0.001	10	10
8/1/2001	4796	6720	7.8	8.1	0.085	0.14	1	1	540	540	956	956	110	110	0	0	0.003	0.003	260	260
9/1/2001	4202	7026	7.1	8.1	0.081	0.121			520	520	190	190	70	70					12	12
10/1/2001	4787	8211	7.9	8.8	0.097	0.17	4.5	5	570	590	260	300	60	70					18	18
11/1/2001	8173	15530	7.4	8	0.349	0.785	2.5	3	580	600	305	370	37.5	40		0.001	0.001	0.001	7.5	9
12/1/2001	10690	21631	7.2	7.6	0.132	0.356	7.5	9	470	500	390	460	40	60	0.001	0.001	0.02	0.03	6	6
1/1/2002	5861	12789	7.8	8	0.089	0.177	1	1	575	600	390	440	15	20		0.001	0.01	0.019	4	4
2/1/2002	5986	11753	7.4	7.7	0.103	0.254	1	1	415	440	420	500	8	10	0.002	0.003	0.002	0.002	4	4
3/1/2002	7773	15171	7.8	9.1	0.066	0.146	1	1	1100	1200	515	550	105	130	0.001	0.001	0.002	0.003	18	18
4/1/2002	7405	13173	7.9	9.8	0.297	0.444	53.8	5.4	2020	2920	565.5	620	153.5	180	0.008	0.008	0.004	0.007	170.7	253
5/1/2002	5926	8593	7.3	8.9	0.488	2.5	9.11	10	585.5	996	368	388	178	185	0.001	0.001	0.005	0.007	37.05	41.8
6/1/2002	6863	13823	7.3	8.3	0.137	0.34	2.1	2.1	2295	3020	1314	1560	376.5	600	0.018	0.034	0.021	0.021	47.2	56.9
7/1/2002	6632	11319	6.7	7.6	0.07	0.118	2.5	2.5	1012	1358	514.5	632	85	100	0.001	0.001	0.001	0.001	35.05	52.4
8/1/2002	10167	18100	7.6	9	0.744	3.7	69.7	70	1088	1174	1538	1565	622.5	772	0.001	0.001	0.004	0.004	53.3	62.3
9/1/2002	13369	21524	7.3	9.1	0.586	1.34	1.49	1.5	1868	1880	1222	1660	539.5	930	0.001	0.001	0.009	0.009	29.15	44
10/1/2002	33188	47239	8.3	8.8	2.6	7.88	2.35	2.5	2825	3600	1160	1160	279	279	0.001	0.004	0.058	0.062	25.7	25.7
11/1/2002	17952	39745	8.1	8.9	1.13	3.675	6.91	7.3	1806	2540	1770	1860	228.5	260	0.02	0.03	0.03	0.04	34.95	53.4
12/1/2002	11235	31051	7.4	8.6	0.246	1.1	26	44	964	1349	1517	2330	574	946	0.003	0.004	0.011	0.015	31.85	35
1/1/2003	22486	44844	7.6	8.1	0.169	0.344	6.72	8.6	549	586	535	704	540	1050	0.0033	0.0033	0.007	0.01	14.1	24.1
2/1/2003	17275	32259	7.6	8.9	0.6	1.362	6.5	7.5	2895	5670	888	940	386	490	0.0022	0.0124	0.0321	0.048	22.25	35.6
3/1/2003	8147	18893	7.9	8.9	0.698	2.377	3.5	5	120.1	120.2	908	1000	216.5	245	0.0029	0.0049	0.0118	0.015	20.05	23.7
4/1/2003	7766	15402	7.9	8.7	0.147	0.199	22.5	38	3105	3890	1350	1660	113	196	0.0008	0.0009	0.0192	0.036	22.6	28.2
5/1/2003	7460	19775	7.7	8.8	0.318	0.838	11.8	13	981.5	1155	649.5	809	210	316	0.0013	0.002	0.0137	0.025	46.7	76.8
6/1/2003	7904	16870	7.6	8.8	0.241	0.744	4.2	6.7	1130	1170	5720	10400	214	272	0.0005	0.0007	0.011	0.021	24.5	33
7/1/2003	13788	24992	7.4	8.3	0.181	0.512	2	2	1460	1850	1525	1850	100	115	0.001	0.001	0.0098	0.012	14.85	24
Limits	45000	50,000			1.0	2.5														

Figure 1 Location Map for Honeywell in Cheney

